CIRC ACCESSION NO--AP0055165
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EQUATIONS FOR THE EVALUATION OF
   CORRECTION FACTORS FOR THE INDIVIDUAL ABSORPTION BANDS IN THE SPECTRA OF
   ANISOTROPICALLY POLARIZED MOLS. IN A CONDENSED MEDIUM (FROM THE EXPTL.
   DETD. OPTICAL CONSTS. OF THE LIQ.) HAVE BEEN DERIVED. THESE CORRECTIONS
   ARE NECESSARY FOR THE DETN. OF THE SPECTRA OF EINSTEIN COEFF. FROM THE
   EXPTL. FOUND SPECTRA.

89

UNCLASSIFIED

USSR

GIRKO, V. L.

"Refinement of Certain Theorems for a Random Determinant and Permanent"

Teoriya Veroyatnostey i mat. Stat. Mezhved. Nauch. sb. [Theory of Pro-
babilities and Mathematical Statistics, Interdepartmental Scientific
Collection], 1972, No 7, pp 28-32 (Translated from Referativnyy Zhurnal,
Kibernetika, No 1, 1973, Abstract No 1 V42 by the author).

Translation: Certain limit theorems of the type of the law of large
numbers are refined for a random determinant and a random permanent.

1/1

USSR

UDC: 519.2

GIRKO, V. L.

"Limit Theorems for a Random Determinant. II"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1972, vyp. 6, pp 41-48 (from RZh--Kibernetika, No 8, Aug 72, Abstract No 8V30)

Translation: Conditions of existence are determined and methods are indicated for calculating distributions of determinants of some random matrices when the order of the matrix is increased. Author's abstract.

1/1

USSR   UDC: 519.214

GIRKO, V. L.

"Limit Theorems for a Random Determinant. I"

Translation: Limit theorems of general type are proved for the determinant
of a random matrix. Author's resumé.

1/1

UDC: 519.21

USSR

GIRKO, V. L.

"On Inequalities for a Random Determinant and a Random Permanent"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 4, pp 48-57 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V40)

Translation: Certain inequalities are proved for the determinant and permanent of a random matrix whose elements are independent and distributed according to a stable law. Author's abstract.

1/1

UDC 519.214

USSR

GIRKO, V. L.

"Limit Theorems for the Permanent of a Random Matrix"

Teoriya veroyatnostey i mat. statis, Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics: Interdepartmental Scientific Collection), No 3 1970, pp 29-34 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V67 by D. Kolchin)

Translation: The permanent of a matrix $A_n = \| \xi_{ij} \|$, $i, j = 1, \ldots, n$, is the term given to the quantity $\operatorname{per} A_n = \sum \xi_{1i_1} \xi_{2i_2} \cdots \xi_{ni_n}$.

where summation is carried out over all computations i_1, i_2, ..., i_n of numbers of 1, 2, ..., n. The article proves two theorems.
   Theorem 1. If the random variables ξ_{ij}, $i, j = 1, 2, \ldots$ are independent and if there exist such constants $c > 0$ and $C > 0$ such that $\frac{c}{1/2} \leqslant \xi_{ij} \leqslant C$ with a probability of one for all i, j, then for any $\varepsilon > 0$

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USSR

GIRKO, V. L., Teoriya veroyatnostey i mat. statis. Mezhved. nauch. sb.,
No 3, 1970, pp 29-34

$$\lim_{n \to \infty} P\left\{ \left| \sqrt[n]{\frac{\operatorname{per} A_n}{M \operatorname{per} A_n}} - 1 \right| < \varepsilon \right\} = 1.$$

Theorem 2. If the random variables ξ_{ij}, $i, j = 1, 2, \ldots$ are independent and identically distributed, and if there exists $M \xi_{11} = a$, and if for a certain $c > 0$ $\xi_{11} \not> c$ with a probability of unity, then for any $\varepsilon > 0$

$$\lim_{n \to \infty} P\left\{ \left| \sqrt[n]{\frac{\operatorname{per} A_n}{n!}} - a \right| < \varepsilon \right\} = 1.$$

2/2

GIRKO, V. L.

"Distribution of Solutions of Systems of Linear Equations with Random Coefficients"

Translation: Systems of linear equations with random coefficients are studied, which are independent, identically distributed with characteristic function

$$e^{-c|t|^\alpha}, \quad 0 < \alpha < 2, \quad c > 0.$$

Formulas are found for the distribution density of components of the vector of solutions.

1/1

1/2   026   UNCLASSIFIED   PROCESSING DATE--30OCT70

TITLE--DISORDERS OF WATER ELECTROLYTE BALANCE IN DIFFERENT FORMS OF
  CHOLECYSTITIS BEFORE AND AFTER SURGICAL TREATMENT -U-

AUTHOR--GIRLYA, V.I.

CCUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 121-124

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--WATER, ELECTROLYTE, GALLBLADDER, SURGERY, POTASSIUM, SODIUM,
  URINE, PLASMA PROTEIN, PERITONEUM, ABDOMEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1698   STEP NO--UR/0475/70/000/004/0121/0124

CIRC ACCESSICN NO--AP0129068
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0129068
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PATIENTS WITH ACUTE CHOLECYSTITIS
  SHOW A DISTINCT INCREASE OF PLASMA POTASSIUM AND DECREASE OF SODIUM,
  REDUCTION OF URINARY EXCRETION OF SODIUM, SHARP INCREASE OF HEMATOCRIT
  COUNT, MARKED INCREASE OF TOTAL PLASMA PROTEIN, OLIGURIA. DISTURBANCES
  OF WATER ELECTROLYTE BALANCE WERE MOST EXPRESSED IN PERFORATIVE
  CHOLECYSTITIS AND PERITONITIS AND WERE APPARENTLY CAUSED BY ACUTE
  INFLAMMATION IN THE ABDOMINAL CAVITY. IN THE POSTOPERATIVE PERIOD THE
  URINARY AND PLASMA POTASSIUM LEVEL INCREASES, AND THERE DEVELOPS
  OLIGURIA AND SODIUM RETENTION. PATIENTS WITH CHRONIC CHOLECYSTITIS
  SHOWED NO DISTINCT CHANGES OF THE ICNOGRAM.   FACILITY: ODESSKOGO
MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR   UDC 539.3:4

VOLKOV, S. D., GIRS, V. N., DENISOV, Yu. V., KLINSKIKH, N. A.,
and KOMISSAROVA, M. L., Sverdlovsk, Ural Polytechnic Institute
imeni S. M. Kirov

"On Methods of Solving Problems of Thermoelasticity"

Abstract: The previously by one of the authors suggested new
method of applying Green's functions of Laplace equation for
derivation of universal algorithms for isothermic problems,
which was propagated to problems of thermoelasticity (Ibid.;
Volkov, S. D., et al., No 2, 1972), presented the solution by
a series of quadratures the convergence of which was demonstra-
ted on an example with already known solution. Some results of
a further development of this method are reported. It is demon-
strated that by known Green's function of Laplace equation of a
given domain, the reduction to a series of quadratures can be
applied to the solution of a disconnected boundary problem of

1/2

USSR

VOLKOV, S. D., et al., Problemy Prochnosti, No 5, May 73, pp 3-8

thermoelasticity of homogeneous isotropic bodies. General con-
ditions of the uniform convergence of this series are determi-
ned. The distribution of stresses in an infinite circular cy-
linder loaded with radial forces in an asymmetric and non-stan-
dard temperature field was determined. Twenty six formulas,
four bibliographic references.

2/2

TITLE--DEPARTMENTAL CLASSIFICATION OF COLD FORMED PARTS -U-

AUTHOR-(02)-TSERNA, A., GIRSH, YU.

COUNTRY OF INFO--USSR

SOURCE--STANDARTY I KACHESTVO, 1970, NR 6, PP 70-72

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BEHAVIORAL AND SOCIAL
   SCIENCES
TOPIC TAGS--ECONOMICS COLD WORKING, MATHEMATIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1465   STEP NO--UR/0422/70/000/006/0070/0072

CIRC ACCESSION NO--AP0130398
                         UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0130398
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS A
   CONSIDERATION OF THE PROBLEM OF DEVELOPMENT   F SYSTEM OF DESIGN AND
   PRODUCTION CLASSIFICATION, AND CALCULATIONS OF ENGINEERING AND ECONOMIC
   EFFICIENCY OF INTRODUCTION OF THE SYSTEM.

UNCLASSIFIED

1/2   012   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--INCREASING THE EFFICIENCY OF MAINS WATER HEATING SYSTEMS -U-

AUTHOR-(04)-BELINSKIY, S.YA., GIRSHFELD, V.YA., KNYAZEV, A.M., LYUBIN,
   YE.S.
COUNTRY OF INFO--USSR

SOURCE--ELEKT. STANTSII (USSR), VOL. 41, NO. 3, P. 18-21 (1970)

DATE PUBLISHED-------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), MECH., IND., CIVIL AND
   MARINE ENGR
TOPIC TAGS--THERMOELECTRIC POWER PLANT, TURBINE HEAT EXCHANGER, HEATING
   ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0501   STEP NO--UR/0104/70/041/003/0018/0021

CIRC ACCESSION NO--AP0135964
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0135964
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VARIOUS METHODS OF CONNECTING
 MAINS WATER HEATERS AND ACCUMULATORS IN THERMAL ELECTRIC POWER STATIONS
 WITH DIFFERENT TYPES OF TURBINE EQUIPMENT ARE ANALYZED. RECOMMENDATIONS
 ARE GIVEN ON WAYS OF IMPROVING MAINS WATER HEATING CIRCUITS.

UNCLASSIFIED

USSR

UDC: 532.516

GIRSHIK, B. L., LEBEDEV, N. F.

"The Problems of Oscillation of a Cylinder in a Cylindrical Cavity Filled with an Incompressible Viscous Fluid"

Translation: The planar problem of the motion of a viscous, incompressible fluid in an infinitely long, rigid cylindrical cavity in which a rigid cylinder oscillates is solved in bipolar coordinates. The axes of the cylinder and cavity are parallel. The eccentricity changes according to a rule which is fixed (with respect to time). An expression is produced from purely kinematic considerations for the velocity of the fluid, satisfying the conditions of "attachment" (considering the viscosity of the fluid) of the fluid to the surfaces of the cylinders.

1/1

USSR

GIRSHOV, V. S.

"The Effect of Selectivity of Fading on the Operation of Incoherent Demodulators of Multiple-Frequency Mutually Orthogonal Phase-Difference Modulated Signals"

Translation: The paper investigates the limiting interference immunity of reception of multiple-frequency phase-difference modulated signals in channels with multibeam propagation and rapid fading. Resumé.

1/1

1/2   011   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--THE REACTION OF N, CYCLOHEXYL, N', BETA, (4, METHYLMORPHOLINIUM)
   ETHYLCARBODIIMIDE WITH GUANYLYL (3' TO 5') CYTIDINE --U-
AUTHOR-(04)-GIRSHOVICH, A.S., GRACHEV, M.A., KNORRE, D.G., CHIMITOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKDEMII NAUK SSSR, NO 2, SERIYA
   KHIMICHESKIKH NAUK, 1970, NR 1, PP 97-102
DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GUANIDINE, IMIDE, MORPHOLINE, HETEROCYCLIC NITROGEN COMPOUND,
   REACTION KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1601   STEP NO--UR/0289/70/000/000/0097/0102

CIRC ACCESSION NO--AP0100211
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0100211
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   THE REACTION KINETICS HAS BEEN
STUDIED OF GUANOSINE RESIDUE IN GPC WITH CME CARBODIIMIDE, AND THE
TEMPERATURE DEPENDENCE OF THE IONISATION OF THE SAME RESIDUE IN ALKALINE
MEDIUM DETERMINED.   THE REACTIVITY OF GUANOSINE RESIDUE TO GPC DOES NOT
DIFFER CONSIDERABLY FROM THAT OF FREE GUANOSINE.

UNCLASSIFIED

TITLE--CHEMICAL MODIFICATION OF GUANOSINE AND INOSINE WITH N,CYCLOHEXYL,N
  PRIME,BE,4,METHYLMORPHOLINIUM, ETHYLCARBODIIMIDE -U-
AUTHOR-(04)-GIRSHOVICH, A.S., GRACHEV, M.A., ORESHKOVA, S.F., RIVKIN, M.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. SIB. OTD. AKAD. NAUK SSSR, SER. KHIM. NAUK 1970, (1), 90-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NUCLEOSIDE, CHEMICAL REACTION, UV SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0542   STEP NO--UR/0289/70/000/001/0090/0097

CIRC ACCESSION NO--AP0137631
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0137631

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF N,CYCLOHEXYL,N PRIME,(BETA,(4,METHYLMORPHOLINYL)ETHYL)CARBODIIMIDE (I) AS THE P-MEC SUB6 H SUB4 SO SUB3 H SALT WITH GUANOSINE (II) AND INOSINE (III) WAS FOLLOWED BY USING LABELED I. A SOLN. OF 29.6 MG I SALT, 10 MG II IN 15 ML H SUB2 O SUB 0.1N KOH TO PH 8.4 WAS KEPT 24 HR AT 37DEGREES. THE REACTION OF I WITH III WAS PERFORMED SIMILARLY. KINETICS OF THE CONDENSATIONS, FOLLOWED BY UV SPECTRA, WAS FIRST ORDER IN BOTH COMPONENTS. THE CONDENSATION PRODUCT OF I WITH II (PK 3.8) AND OF I WITH III (PK 3.5, H SUB2 O, 23DEGREES) ARE STABLE BETWEEN PH 2 AND 7. IN AN ALK. SOLN., HYDROLYSIS OCCURS. THE CORRESPONDING ARRHENIUS EQUATION PARAMETERS WERE DETD.   FACILITY: NOVOSIBIRSK. INST. ORG. KHIM., NOVOSIBIRSK, USSR.

1/2   012   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--THE CHEMICAL MODIFICATION OF GUANOSINE AND INOSINE WITH
  N,CYCLOHEXYL, N', BETA, (4,METHYLMORPHOLINIUM) ETHYLCARBODIIMIDE -U-
AUTHOR-(04)-GIRSHOVICH, A.S., GRACHEV, M.A., ORESHKOVA, S.F., RIVKIN, M.I.

COUNTRY OF INFO--USSR   G

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSR, NO 2, SERIYA
  KHIMICHESKIKH NAUK, 1970, NR 1, PP 90-97
DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NUCLEOSIDE, IMIDE, CYCLIC GROUP, MORPHOLINE, CHEMICAL KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1825   STEP NO--UR/0289/70/000/001/0090/0097

CIRC ACCESSION NO--AP0100399
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0100399
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICAL STUDIES HAS BEEN
  PERFORMED AND THE ARRHENIUS EQUATION PARAMETERS FOUND FOR THE REACTION
  OF GUANOSINE AND INOSINE WITH CME CARBODIIMIDE IN AN AQUEOUS SOLUTION.
  THE REACTION PRODUCTS (CME, NUCLEOSIDES) ARE STABLE IN NEUTRAL AND
  ACIDIC MEDIA DOWN TO PH 1. THEY CONTAIN GROUPINGS WITH PK 3,8 (CME,
  GUANOSINE) AND 3,5 (CME INOSINE) AT 23DEGREES. THE REACTION KINETICS
  HAS BEEN ALSO STUDIED OF THE HYDROLYSIS OF CME, NEUCLEOSIDES TO THE
  STARTING NUCLEOSIDES IN ALKALINE MEDIUM AND THE CORRESPONDING ARRHENIUS
  EQUATION PARAMETERS DETERMINED.

UNCLASSIFIED

THE CHEMICAL MODIFICATION OF GUANYLYL-(3'→5')-CYTIDINE
WITH N-CYCLOHEXYL, N'-β-(4-METHYLMORPHOLINIUM)-
ETHYLCARBODIIMIDE.
THE EFFECT OF THE MODIFICATION UPON THE STABILITY
OF PHOSPHODIESTER BOND TO GUANYLO-RIBONUCLEASE
OF ACTINOMYCES

A. S. GIRSHOVICH, M. A. GRACHEV and T. A. CHIMITOVA

Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences, USSR,
Novosibirsk

Guanylyl-(3'→5')-cytidine has been modified with ^{14}C-CME-carbodiimide at the guanosine residue and the reaction product $\overline{G}$pC was isolated. Guanylo-ribonuclease from *Actinomyces* does not cleave the phosphodiester bond in $\overline{G}$pC.

//

REEL/FRAME
19771425

o2/kc

1/2   015   UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--IONIC HYDROGENATION OF A NITRO GROUP BY ORGANIC HYDRIDE DONORS -U-

AUTHOR-(02)-GIRSHOVICH, M.Z., YELTSOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 636-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGENATION, HYDRIDE, ORGANIC COMPLEX COMPOUND, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1185   STEP NO--UR/0366/70/006/003/0636/0637

CIRC ACCESSION NO--AP0107661
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0107661
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN CONCD. HCL SOLN. AT 20DEGREES
  1,3,DIMETHYL,5, NITROBENZIMIDAZOLINE IS CONVERTED, AFTER 48 HR, TO A
  MIXT. OF 1,3,DIMETHYL,5,NITROBENZIMIDAZOLIUM HYDROCHLORIDE AND
  1,3,DIMETHYL,5, AMINO,6,CHLOROBENZIMIDAZOLIUM CHLORIDE (I). THE
  FORMATION OF I INVOLVES A NEUCLEOPHILIC REARRANGEMENT WITH
  1,3,DIMETHYL,5, HYDROXYLAMINOBENZIMIDAZOLIUM CHLORIDE AS THE
  INTERMEDIATE.   FACILITY: LENINGRAD. KHIM.-FARM. INST.,
  LENINGRAD, USSR.

UNCLASSIFIED

1/2   024   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--PLASTIC RECONSTRUCTION OF THE CRANIAL VAULT TRAUMATIC DEFECTS UNDER
   CONDITIONS OF SURGICAL DEPARTMENTS -U-
AUTHOR-(03)-GIRSHOVICH, YE.I., LUCHKO, G.D., PYSHNOVA, M.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 4, PP
   126-129
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CEREBRUM, ORTHOPEDIC SURGERY, BONE GRAFT, ORGANIC GLASS,
   PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0043   STEP NO--UR/0589/70/104/004/0126/0129

CIRC ACCESSION NO--AP0105142
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0105142

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   IN 33 PATIENTS WITH CRANIOCEREBRAL
  INJURIES VARIOUS KINDS OF CRANIAL DEFECTS PLASTY WERE EMPLOYED (LOCAL,
  GRAFTS FROM THE ORGANIC GLASS AND STYRACRYL).   PRIMARY PLASTY WAS
  PERFORMED IN 25 PATIENTS.   PRIMARY ALLOCRANIOPLASTY COULD BE
  SUCCESSFULLY USED IN NON SPECIALIZED DEPARTMENTS, TO DATE, HOWEVER,
  LOCAL BONE PLASTY IS STILL OF MAJOR IMPORTANCE.

UNCLASSIFIED

Acc. Nr.: __AM C106713__

Ref. Code: __UR0000__

Chizhikov, A. I.; Perminov, V. P.; Lokhimovich, V. L.; Girskiy, V. Ye.; Moro-
zenskiy, L. I.; Grigor'yev, E. F.

Continuous Casting of Steel Into Billets of a Large Cross-Section (Nepreryv-
naya razlivka stali v zagotovki krupnogo secheniya) Moscow, Metallurgiya,
1970, 135 pp (SL:2047)

TABLE OF CONTENTS:

Reel/Frame
19890037

/8

Acc. Nr.: *AM 0106713*

Given are results of investigations of conditions in formation of large continuous ingots.

Given are results of the development and adoption of techniques for continuous steel casting into slabs with a width up to 1500 mm and shaped castings with a cross-section up to 280 X 420 mm.

Reel/Frame
19890038

1/2   009   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--SYNTHESIS OF OLIGOURETHANES WITH DISUBSTITUTED NITROGEN ATOMS IN
   THE MAIN CHAIN -U-
AUTHOR-(03)-MATYUSHOV, V.F., GIRTSENKO, T.M., SINYAVSKIY, V.G.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(3), 275-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYL CARBAMATE, OLIGOMER, ORGANIC SYNTHESIS, ORGANIC NITROGEN
   COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0904   STEP NO--UR/0073/70/036/003/0275/0277

CIRC ACCESSION NO--AP0137932
                         UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0137932

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF CLCH SUB2 ROCH
SUB2 CL (R EQUALS CH SUB2 CH SUB2 OR (CH SUB2 CH SUB2) SUB2 O) WITH H
SUB2 NCO SUB2 R PRIME (R PRIME IS ME OR ET) AT 20DEGREES GRADUALLY
INCREASING TO 150DEGREES GAVE 96-9PERCENT LOW MOL. WT.(CH SUB2 OROCH
SUB2 N(CO SUB2 R PRIME)) SUBN.   SIMILARLY THE REACTION OF CLCH SUB2 NCO
WITH R PRIME2 OLL (R PRIME2 IS ME OR BU) GAVE SMALLER THAN OR EQUAL TO
99PERCENT LOW MOL. WT. (CH SUB2 N(CO SUB2 R PRIME2)) SUBN.
FACILITY: INST. KHIM. VYSOKOMOL. SOEDIN., KIEV, USSR.

UNCLASSIFIED

GIRYA, M. G., KUDRINSKIY, V. YU., SERGIYENKO, I. V., STUKALO, A. S.

"Input Language and Processor for Program Controlled Electronic Keyboard Computers"

Translation: The input problem-oriented language PIKM (programming of engineering problems on keyboard computers) and its execution on one of the models of the program controlled keyboard computers (PEKVM) is described. It is noted that with respect to program structure the PIKM language is close to the FORTRAN language. The program in PIKM comprises the basic program and subroutines. The basic program comprises operators and descriptions separated by semicolons or auxiliary words. The descriptions can appear at any point of the program as needed. The set of descriptive media of the PIKM language is oriented toward the keyboard of the PEKVM, that is, each symbol corresponds to one key. The processor is described which executes the operation of the interpreting system. The algorithm of the interpretation system comprises three basic parts: the 1/2

USSR

GIRYA, M. G., et al., Teoriya yazykov i metody postroyeniya sistem programmir.,
Kiev-Alushta, 1972, pp 265-277

algorithm for preliminary processing of the data written in the input language,
the algorithm for interpreting the internal language of the program level and
the algorithm for the program debugging system. The characteristic of each
algorithm is presented. The bibliography has 13 entries.

2/2

USSR   UDC: 621.317.334(088.8)

MAMONOV, A. A., GIRZHMAN, N. I., Novosibirsk Institute of Measures and Measuring Devices

"Measures With Low Inductances"

Translation: This Author's Certificate introduces measures with small inductance values made in the form of sections of coaxial and helical line. As a distinguishing feature of the patent, the range is extended in the direction of small inductances, and inductance variation is reduced while simultaneously improving measurement precision by forming the current terminals from the housing of the device and the inner electrode, while the voltage terminals are formed by a lateral opening in the housing and a rod which is in point contact with the inner electrode.

1/1

USSR

UDC: 681.34.0

GREZDOV, G. I., GISHCHAK, K. I., KOSMACH, Yu. P., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"An Analog Computer Device for Hybrid Computers"

Translation: This Author's Certificate introduces an analog computer device for hybrid computers which contains a series hook-up comprised of a digital-analog converter and a quasianalog of the slope of a system of linear algebraic equations. As a distinguishing feature of the patent, the labor involved in solving a problem is reduced and reliability is increased by incorporating into the quasianalog of the slope of the system of linear algebraic equations an analog of a system of linear functions, a penalty function shaper, and a derivative shaper. The output of the analog of the system of linear functions is connected to the input of the penalty function shaper, the input of the analog of the system of linear functions is connected to the output of the digital-analog converter, and the input of the derivative shaper is connected to the output of the penalty function shaper.

1/1

USSR   UDC: 551.511

GISINA, F. A., DZHOLOV, G. D., LAYKHTMAN, D. L.

"Distribution of the Concentration of an Impurity Entering the Atmosphere
From a High-Altitude Continuous Point Source"

Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. Min.
SSSR (Works. Institute of Experimental Meteorology. Main Administration of
the Hydrometecrological Service Affiliated With the Council of Ministers
of the USSR), 1972, vyp. 27, pp 70-76 (from RZh-Mekhanika, No 7, Jul 72,
Abstract No 7B988)

Translation: Taking the numerical solution of the two-dimensional equa-
tion of turbulent diffusion as a basis, the authors find the distribution
of an impurity $S(x,z)$ entering the atmosphere from a continuous high-
-altitude point source (the x-axis is parallel to the wind, the z-axis
is directed vertically upward). The function $S(x,z)$ is related to the
volumetric concentration $q(x,y,z)$ by the expression

$$q(x, y, z) = \frac{e^{-v^2/2\sigma_y^2}}{\left(2\pi\sigma_y^2\right)^{1/2}} S(x, z)$$

1/2

where σ_y^2 is the dispersion of the particles of impurity in the direction of the $\bar{y}$-axis.

In determining $S(x,z)$ use was made of the wind speed profiles and the coefficient of turbulence found by Bobyleva, Zilitinkevich and Laykhtman from a closed system of equations for the boundary layer. The external parameters of the problem are the Rossby number $R = G/\lambda z_0$, and the stratification parameter

$$\mu = -\varkappa^4 \frac{g}{T} \frac{P/C_p \rho}{\lambda V_*^2}$$

where G is the geostrophic wind, $\lambda = 2\omega \sin\phi$ is the Coriolis parameter, z_0 is the roughness parameter, V_* is the dynamic velocity, P is the turbulent heat flux and the remaining notation is conventional.

The calculation was done on a computer. A study was made of the effect of external parameters and physicochemical characteristics on impurity distribution. Some results of the numerical solution are given. Authors' abstract.

2/2

USSR   UDC 621.791.052.011,669.71

KOMAROV, M. A., Engineer, GITARSKIY, L. S., Engineer, LOBZHANIDZE, A. V.,
Engineer, and SMETANNIKOV, V. V., Engineer

"Properties of Welded Joints of Aluminum-Beryllium Alloy"

Abstract: Properties of welded joints of No 1, No 2, Be-31Al, Be-41Al,
and Be-38Al Al-Be-alloys (0.8-3.0 mm thick sheets) welded by the argon-arc
and electron beam methods, were experimentally investigated. The results are
discussed by reference to graphs showing the diagram of state of Al-Be and
effect of welding rate on mechanical properties of argon-arc welded joints
of 2.0-mm-thick sheets and their microstructures. The experiments demon-
strated that high quality welds on sheets of Al-Be alloys can be obtained
by d.c. argon-arc welding of direct polarity in a chamber with controllable
atmosphere. A redistribution of the Be-component in the thermal influence
zone and the seam metal takes plzce, influenced by the Al-Be welding thermal
cycle. The strength of Ar-arc welded joints was found to be 34 kg/mm^2; their
plasticity and ductility characteristics exceeded the characteristics of the
initial metal. In order to obtain a quality weld by the electron-beam method,
the welding must be performed in two operations (with a sharp beam and with a
1/2

USSR

KOMAROV, M. A., et al., Svarochnoye Proizvodstvo, No 9 (443), Sep 71, pp 26-28

defocused beam), but   the properties of such joints are lower than the properties obtained by Ar-arc welding. Five illustrations, three tables, six bibliographic references.

2/2

UDC 591.81:612.014

USSR

YUNUSOV, A. YU. and GITELMAN, YE. I., Department of Physiology, Academy of Sciences UzbekSSR

"Some Aspects of Cellular Mechanisms in the Change of Functions of an Organism Under Different Temperature Conditions"

Tashkent, Uzbekskiy Biologicheskiy Zhurnal, No 2, 1971, pp 27-29

Abstract: Tissue permeability of neutral red (introduced intra-abdominally) was studied in test animals (white rats) which had been kept in a temperature chamber at various temperatures (from 20 to 50°C at 3° intervals). It was found that tissues from the organs studied have a different level of permeability: liver > kidney > intestine > musculus intercostalis > femoral muscle > skin. This is an indication that there are topographic features of tissue permeability. The one of kidney, muscular intercostalis, and skin is reduced by 15, 27, and 16%, respectively, when the environmental temperature is 23°C. At 26°C, the permeability of liver, femoral muscle, and intestine was reduced by 24, 51, and 17%, respectively. That of kidney and musculus intercostalis was even further reduced (by 41 and 61%). Data of this type were collected

1/2

- 69 -

USSR

YUNUSOV, A. YU., and GITELMAN, YE. I., Uzbekskiy Biologicheskiy Zhurnal,
No 2, 1971, pp 27-29

for temperature regimes up to 53°C. From 35°C on, an increase in tissue
permeability was noted in all types of tissues. A minimum level was observed
at environmental temperatures of $32-35^\circ$C. Metabolic exchange processes
increase above and below these temperatures. The authors attribute this to
an increase in sorption capacity of the protoplasm, caused by a metabolic
change brought about by shifts in the fine processes of the organism.

2/2

USSR

UDC 621.317.76:621.373.42

KULISH, G. M., GITELSON, A. A.

"Sweep Generator with Intrapulse Frequency Deviation"

Translation: A superhigh-frequency sweep generator with intrapulse frequency deviation and with increased output power has been developed. It insures a frequency deviation rate up to 17.5 megahertz/microsecond. The instrument per-mits measurement of the parameters of superhigh-frequency four-terminal networks during the time of a pulse, their variation from pulse to pulse and when averag-ing the parameters — for a time from 1 to 40 seconds.

1/1

Biophysics

USSR

GITEL'ZON, I. I., Doctor of Biological Sciences

"Bioluminescence as a Source of Information"

Moscow, Priroda, Russian, No 12, 1972, pp 105-106

Translation: The ability to emit light during enzymatic reactions, typical of
a number of animal and plant species, may serve as an effective source of
various types of information on biological processes occurring at different
levels of organization of living entities -- from the internal metabolism of a
cell to biological associations.

The biochemical substrate and the biophysical mechanism of bioluminescence
have been studied at the Institute of Physics, Siberian Branch, USSR Academy of
Sciences, and the methods and apparatus for studying these phenomena under
laboratory and natural conditions have been developed. The methods developed
have made it possible to disclose rapidly alternating fluctuations (on the
order of 10 Hertz) in cellular emission, discover abnormal resistance to the
diffusion of oxygen in the region of the cell membrane, and to make rapid,
transitory processes occurring during a cell's metabolism accessible to measure-
ment.

1/2

USSR

GITEL'ZON, Priroda, Russian, No 12, 1972, pp 105-106

It was found that luminescent bacteria isolated from Pacific Ocean water
and subjected to continuous culture have the fastest growth rate known (4-5
minute generation time) and the sharpest intensification of emission (by up to
a factor of four). Work is presently under way to create an electronic analog
of the emitting mechanism of living organisms. Such a model is to have the
capability of converting energy accumulated in chemical bonds into light with
a conversion coefficient close to unity.

A system of apparatus that can be submerged into the sea has been designed
so that natural manifestations of bioluminescence could be studied. This
phenomenon was found to be present in all oceans and to extend down to maximum
ocean depths. The characteristics of bioluminescence distribution with respect
to depth have been revealed. This information has been used as the basis for
proposing a sighting method for studying the spatial structure and productivity
of marine associations. The method paves the way for using biophysical methods
based on optical effects and incorporated into apparatus on ships, aircraft, and
space vehicles, to study living phenomena.

2/2

- 4 -

UDC 576.76:576.8

USSR

VOYTOVICH, Ya. V., PONOMAREV, P. M., TRUBACHEV, I. N., GITEL'ZON, I. I., and TERSKOV, I. A., Institute of Biophysics, Siberian Department, Academy of Sciences USSR, Krasnoyarsk

"Gas and Water Balance in a Regenerative Life-Support System Using Hydrogen-Oxidizing Bacteria"

Abstract: Hydrogen-oxidizing bacteria can perform 3 functions that warrant their consideration as regenerative agents in a spacecraft life-support system: (a) utilization of carbon dioxide exhaled by man, regeneration of oxygen by electrolysis of water synthesized in the course of human and bacterial oxidation, and liberation of hydrogen needed for the bacterial life processes; (b) regeneration of water from human liquid wastes; (c) regeneration of proteins in the cosmonaut's diet. This report summarizes the results of a study of the growth, gas exchange, and biochemical composition of Hydrogenomonas eutropha grown in a continuous flow-type culture. The data suggest that a life-support system can be based on the use of chemosynthesis of H_2 bacteria and electrolysis.
1/1

USSR

UDC 578.087.8+577.472(26)

GITEL'ZON, I. I., LEVIN, L. A., SHEVYRNOGOV, A. P., FILIMONOV, V. S., ARTEMKIN, A. S., UTYUSHEV, R. N., and ZAGORODNIY, Yu. A.

"Measurement of Bioluminescence at Great Depths"

Abstract: The recording of bioluminescence appears to be the only convenient way at present of studying abyssal organisms directly in their habitat. To carry out such investigations, the Institute of Physics of the Siberian Department of the Academy of Sciences USSR developed a bathyphotometric device with autonomous power supply and recording of signals. Magnetic recording is used for the signals coming from the light receiver. The bathyphotometer consists of two hermetically sealed containers joined together. The larger one holds the light receiver, power supply, program control system, and recording apparatus, while the smaller one holds a flashing lamp with program control and power supply. Measurements made in December 1968, by the research vessel Vityaz' in the Sea of Japan at a depth of 7000-7200 m are briefly described.

1/1

TITLE--MEASUREMENT OF BIOLUMINESCENCE AT MAXIMUM DEPTHS -U-

AUTHOR-(05)-GITELZON, I.I., LEVIN, L.A., SHEVYRNOGOV, A.P., FILIMONOV,
   V.S., ARTEMKIN, A.S.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 3, 1970, PP
   689-692
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY, BIOLOGICAL AND
   MEDICAL SCIENCES
TOPIC TAGS--BATHYPHOTOMETER, MARINE BIOLOGY, LUMINESCENCE, OCEANOGRAPHIC
   INSTRUMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0270   STEP NO--UR/0020/70/191/003/0689/0692

CIRC ACCESSION NO--AT0108574
                       UNCLASSIFIED

CIRC ACCESSION NO--AT0108574
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REGISTRY OF BIOLUMINESCENCE IS
  EVIDENTLY THE ONLY AVAILABLE MEANS FOR STUDYING MANIFESTATIONS OF LIFE
  OF ABYSSAL ORGANISMS IN SITU. THE PHYSICS INSTITUTE SIBERIAN DEPARTMENT
  ACADEMY OF SCIENCES USSR HAS DEVELOPED AN ABYSSAL BATHYPHOTOMETER WITH A
  SELF CONTAINED POWER SOURCE WITH THE REGISTRY OF SIGNALS FROM A
  PHOTODETECTOR; IT IS CONNECTED TO THE SHIP BY A CABLE. MAGNETIC
  RECORDING IS USED FOR SIGNAL REGISTRY. AT THE SITE OF THE INSTRUMENT IT
  WAS DEEMED NECESSARY TO INTRODUCE INTO THE MEDIUM SOME FORM OF
  EXCITATION BECAUSE MECHANICAL EXCITATION BY THE INSTRUMENT ITSELF IS
  SCARCELY ADEQUATE AT THE DEPTHS WHERE MEASUREMENTS WERE MADE. THE
  EXCITATION SOURCE WAS A FLASH LAMP. THE ARTICLE IS ACCOMPANIED BY A
  BLOCK DIAGRAM OF THE INSTRUMENT. THE BATHYPHOTOMETER OPERATES IN
  ACCORDANCE WITH A PRESTIPULATED PROGRAM. THE DURATION OF AN INDIVIDUAL
  FLASH IS 1 MSEC. THE INSTRUMENT CONSISTS OF TWO COUPLED INSTRUMENT
  PACKAGES, ORIENTED AT AN ANGLE TO ONE ANOTHER IN SUCH A WAY THAT THE
  OPTICAL AXES OF BOTH PACKAGES INTERSECT AND ARE DIRECTED DOWNWARD. THE
  LARGER OF THE CONTAINERS HOLDS THE PHOTODETECTOR AND THE POWER SOURCE,
  THE PROGRAMMED CONTROL SYSTEM AND THE RECORDER. THE SMALLER CONTAINER
  HOLDS THE FLASH LAMP WITH PROGRAMMED CONTROL AND ITS POWER SOURCE. THE
  CONTAINERS ARE FABRICATED FROM A TITANIUM ALLOY AND ARE DESIGNED FOR
  OPERATING AT PRESSURES UP TO 1,500 KG-CM PRIME2, THAT IS, UP TO THE
  GREATEST OCEAN DEPTHS. THE INSTRUMENT WAS USED ABOARD THE "VITYAZ'" IN
  DECEMBER 1968 FOR MEASURING BIOLUMINESCENCE IN THE JAPANESE DEEP AT
  DEPTHS OF 7,000-7,200 M.

                        UNCLASSIFIED

3/3·   019   UNCLASSIFIED   PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AT0108574
ABSTRACT/EXTRACT--THE BATHYPHOTOMETER EXPOSURE TIME AT THE MEASUREMENT
HORIZON WAS 60 MINUTES; DURING THIS TIME 18 BIOLUMINESCENT BURSTS WERE
REGISTERED. INFORMATION IS GIVEN ON THE AMPLITUDES, DURATIONS AND
ENERGIES OF THESE BURSTS.

UNCLASSIFIED

USSR

UDC 518.5:681.3.06

GITERMAN, E. M., PANOV, Y. I.

"The Use of the Method of Recognition of Classes for Automatic Control of Chemical Processes"

No Abstract.

1/1

1/2   010   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--BROWNIAN MOTION NEAR THE CRITICAL POINT OF LIQUIDS -U-

AUTHOR-(03)-GITERMAN, M.SH., LIKHT, M.K., SHTEYNBERG, V.A.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(3), 405-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--BROWNIAN MOTION, CRITICAL POINT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1128   STEP NO--UR/0185/70/015/003/0405/0409

CIRC ACCESSION NO--AP0136548
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0136548
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   THE EXPTL. DATA IN THE VICINITY OF
  THE CRIT. REGION AGREE BETTWE WITH THE DEPENDENCE OF THE BROWNIAN
  DIFFUSION COEFF. ON THE VISCOSITY OF THE MEDIUM GIVEN BY D SIMILAR TO
  ETA PRIMEO OR D SIMILAR TO ETA PRIME2 RATHER THAN THE EINSTEIN RELATION
  D SIMILAR TO 1-ETA.   FACILITY: INST. FIZ.-TEKH. RADIOTEKH.
  IZMER., MOSCOW, USSR.

UNCLASSIFIED

USSR

GITERMAN, M. SH., SHTEYNBERG, V. A., Moscow

"Internal Gravitational Waves and the Convective Instability of a Fluid"

Abstract: The interrelationship between conditions for convective insta-
bility and the condition for the existence of internal gravitational waves
in a fluid is investigated. There is assumed a density gradient with
respect to height both due to the gravitational field and due to the tem-
perature and concentration gradient, particularly close to the critical
points of pure fluids and binary mixtures. The error in measuring the
coefficient of heat conductivity close to the critical point associated
with the propagation of internal gravitational waves is evaluated. It is
noted that internal gravitational waves and convective instability of a
fluid are natural phenomena due to the presence of a considerable inhomo-
geneity in density over height of a layer of fluid. Internal gravita-
tional waves propagate in a mechanically equilibrium fluid if the restora-
tion force is different from zero, but different dissipative mechanisms
lead to damping of oscillations and shift the boundary for the existence of

1/2

USSR

GITERMAN, M. SH., SHTEYNBERG, V. A., Mekhanika zhidkosti i gaza, No. 2,
Mar/Apr 72, pp 55-61

internal gravitational waves toward positive temperature gradients while
in the case of convective instability the convection threshold is shifted
toward negative gradients. Examples are given to show the mutual location
of the boundary for the existence of internal gravitational waves and the
boundary for convective instability, both steady-state and oscillatory.
It is shown that phenomena associated with inhomogeneity of the system,
oscillatory and steady-state convection, and internal gravitational waves
are generally characterized by different conditions of onset.

2/2

GITGARTS, M.I.

machine design

INVESTIGATION OF THE DIFFRACTION OF X-RAYS IN AGING ALLOYS HAVING A DIFFERENT DEGREE OF VOLUMETRIC DISCREPANCY BETWEEN THE PRECIPITATION PHASE AND THE MATRIX

In references (1--6) it was demonstrated that the basic cause of the observed fading, and also the unique transformation of the profile of diffraction lines of aged specimens of nimonic alloy are the elastic displacements of the atoms in a solid solution, caused by the presence of specific atomic volumes of the precipitation phase V_B and the matrix V_A. However, a systematic study of the role of the volumetric factor ($\Delta V/V = (V_B - V_A)/V_A$) in the formation of selective reflections was not conducted. In connection with this, it was of interest to study the quantitative relationships of the scattering of X-rays by dispersion-hardened alloys with a different degree of volumetric discrepancy between the precipitation phase and the matrix.

The investigation was conducted on aging alloys KhN77TYuR (nimonic) and KhN67VMTYu, having γ'-solid solutions of the same type and precipitating γ'-phases (reference 7), but, however, essentially differing in the magnitude of the volumetric factor. For alloy KhN77TYuR the magnitude of $\Delta V/V$, as is known (reference 6) amounts to $\sim 0.0z$, and for alloy KhN67VMTYu its maximum absolute value is equal to ~ 0.001. The considerable proximity of the alloys being investigated with respect to structural state made it possible to exclude the possible effects of outside factors on diffraction.

- 1 -

[I - USSR - I]

Superalloys

GITGARTS, M. I., TOLSTOY, A. V., and IVASHIN, V. V., Institute of the Problems of Reliability and Life of Machines of the Academy of Sciences Belorussian SSR

"Volumetric Changes During Aging of Nimonic Alloy"

Abstract: An experimental investigation was made of the dependence of the relative elongation Δ 1/1 and the relative change of the lattice constant Δ a/a of Nimonic alloy (Ni-Cr-Al-Ti) on its volumetric separation share p. Dilatometric investigations revealed that the decomposition of the solid solution of Nimonic is accompanyed by a volumetric contraction effect. The degree of contraction is a linear function of the volumetric content of the γ'-phase. The lattice constant of the matrix measured by normal reflections changes equally to the linear dilation. It is demonstrated that the volumetric effect results from concentration changes and interfacila elastic deformations. Therefore, the dilation by decomposition of the solid solution of Ni-Cr-Al-Ti can be described as consisting of compressive and elastic dilations. The first is caused by impoverishing of the matrix phase by Al and Ti atoms: the other is determined by the inadequacy of specific atomic volumes of the
1/2

USSR

GITGARTS, M. I., et al., Fizika Metallov i Metallovedeniye, Vol 33, No 4,
Apr 72, pp 820-823

separation and the matrix. One illustration, one formula , one table,
fourteen bibliographic references.

2/2

1/2   038   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--EFFECT OF THE COAGULATION OF LIBERATED PHASES ON THE DISTRIBUTION
  OF INTENSITY IN DIFFRACTION LINES OF THE MATRIX PHASE OF AGING ALLOYS
AUTHOR--GITGARTS, M.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 82-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL AGING, ALLOY DESIGNATION, NICKEL BASE ALLOY, ELASTIC
  DEFORMATION, SOLID SOLUTION, X RAY DIFFRACTION/(U)NIMONIC ALLOY,
  (U)EI437B NICKEL BASE ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/1262   STEP NO--UR/0020/70/192/001/0082/0085

CIRC ACCESSION NO--AT0138273
                        UNCLASSIFIED

CIRC ACCESSION NO--AT0138273
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANAL. OF PUBLISHED THEORETICAL
   AND EXPTL. STUDIES SUGGEST THAT IN AGED ALLOYS IN WHICH SEGREGATIONS
   FORM ELASTIC DEFORMATION OF THE MATRIX, COAGULATION PROCESSES HAVE A
   MARKED EFFECT ON THE CHARACTER OF THE INTENSITY DISTRIBUTION OF THE X
   RAY DIFFRACTION LINES OF THE SOLID SOLNS. THIS WAS CONFIRMED BY THE
   EXPTL. X RAY STUDY OF THE NIMONIC ALLOY EI437B WHICH WAS HOMOGENIZED FOR
   8 HR AT 1080DEGREES IN AIR AND AGED FOR 15-150 HR AT 750DEGREES. DURING
   THE AGING PERIOD, THE AMT. OF THE GAMMA PRIME PHASE REMAINS PRACTICALLY
   UNCHANGED, BUT THE AMT. OF SEGREGATIONS WITH THE COLLOIDAL PARTICLE SIZE
   (130-320 ANGSTROM) INCREASES WITH AGING TIME. THE AGING A 750DEGREES
   LEADS TO A MARKED REDISTRIBUTION OF THE MAX. OF THE CU K ALPHA MATRIX
   LINE (420).   THE MAIN PEAKS PRACTICALLY DISAPPEAR AFTER 120 HR AGING
   AND NEW DIFFUSION MAX. APPEAR. THE EXPTL. DATA ON THE DISTRIBUTION OF
   THE INTENSITIES OF THE X RAY LINES ARE IN A GOOD AGREEMENT WITH THEORY.

UNCLASSIFIED

USSR

UDC 621.372.853.1

GITIN, V. Ya.

"Calculation of the Structure of an Electromagnetic Field and Determination of the Limiting Power in a Rectangular Wave Guide Partially Filled with Dielectric"

Materialy nauchno-tekhn. konferentsii Leningr. elektrotekhn. in-t svyazi. Vyp. 4 (Materials of the Scientific and Technical Conference of Leningrad Electrotechnical Communications Institute. Vyp. 4), 1970, pp 75-80 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8B137)

Translation: This article contains an investigation of a rectangular wave guide with two rectangular dielectric inserts. A formula is derived which permits calculation of the limiting power beginning with the geometric dimensions of the wave guide and the inserts, the operating wavelength and the dielectric inserts. There are two illustrations.

1/1

1/2   016   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--COMPOSITION FOR HERMETIZATION -U-

AUTHOR-(05)-ERLIKH, I.M., GILINA, I.G., PETROV, G.N., RAPPOPORT, L.YA.,
   VASILYEVA, I.N.
COUNTRY OF INFO--USSR

SOURCE--USSR 265,344
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--HERMETIC SEAL, POLYGLYCOL, PLASTICIZER, ORGANIC ISOCYANATE,
   PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1459   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128858
                    UNCLASSIFIED

CIRC ACCESSION NO--AA0128858
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. THE TITLE COMPN., WITH ENHANCED
  MECH. STABILITY, ELASTICITY, AND ADHESION, IS BASED ON UNSATD.
  POLYGLYCOLS OF REGULAR STRUCTURE AND CONTAINS A PLASTICIZER,
  POLYISOCYANATES, AND AN ACTIVATING SYSTEM.   FACILITY: KALININ, M.
  I., POLYTECHNIC INSTITUTE, LENINGRAD.

UNCLASSIFIED

TITLE--PROCESSING OF IRON SULFATES IN TITANIUM DIOXIDE PRODUCTION -U-

AUTHOR-(02)-SAFIULLIN, N.SH., GITIS, E.B.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 359-62

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TITANIUM DIOXIDE, IRON SULFATE, PYRITE, SULFUR OXIDE,
  FLUIDIZED BED

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0339   STEP NO--UR/0064/70/046/005/0359/0362

CIRC ACCESSION NO--AP0137443
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0137443
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NEUTRALIZATION, DRYING, AND
DECOMPN. OF THESE SALTS ARE DESCRIBED. THE NEUTRALIZATION OF THE FREE H
SUB2 SO SUB4 IN A FLUIDIZED BED AT 160-220DEGREES RESULTS IN THE
SIMULTANEOUS DRYING OF THE SALT. DECOMPN. OF THE NEWTRALIZED AND DRIED
SALT IN A FLUIDIZED BED FURNACE WITH PYRITE WAS MORE ADVANTAGEOUS THAN
WITH CARBON. THE POSSIBILITY OF OBTAINING A HIGH SO SUB2 GAS
(18-20PERCENT) WAS CONFIRMED.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--11DEC70

1/2   007
TITLE--SULFUR DIOXIDE FROM ROASTED PYRITE AND FERROUS SULFATE -U-

AUTHOR-(02)-SAFIULLIN, N.SH., GITIS, E.B.

CCUNTRY OF INFO--USSR

SOURCE--GER. OFFEN. 1,800,066

DATE PUBLISHED--02JUL70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PYRITE, IRON SULFATE, CHEMICAL PATENT, SULFUR OXIDE, PATENT

CCNTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/1431   STEP NO--GY/0000/70/000/000/0000/0000

CIRC ACCESSICN NO--AA0138441
                    UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--11DEC70

CIRC ACCESSICN NO--AA0138441

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   A MIXT. CONTG. 1 PART PYRITE AND
0.5 PART ANHYD. FESO SUB4 WAS ROASTED AT 720DEGREES IN A FLUIDIZED BED
FURNACE.   A PRODUCT GAS CONTG. 25.0PERCENT SO SUB2 AND 0.2PERCENT O AND
AN FE SUB2 O SUB3 PRODUCT CONTG. 1.45PERCENT S WERE OBTAINED.
FACILITY: STATE SCIENTIFIC-RESEARCH INSTITUTE OF BASIC CHEMISTRY.

UNCLASSIFIED

ᵢcc. Nr. **AA0108168** Abstracting Service: Ref. Code
CHEMICAL ABST. *6/70* UR O482

134799n **Sulfur dioxide production.** Safiullin, N. Sh.;
Gitis, E. B. (State Scientific-Research Institute of Basic Chem-
istry) U.S.S.R. 259,846 (Cl. C 01b), 22 Dec 1969, Appl. 09
Feb 1966; From *Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye
Znaki* 1970, 47(3), 26. SO_2 is prepd. by roasting a mixt. of
$Fe_2(SO_4)_3$ and S pyrite at increased temp. in a fluidized bed with
a wt. relation of sulfate S to pyrite S 0.25–0.75, and air supply
with a coeff. of excess ≦1.3. MQCL

REEL/FRAME
1989183·4

USSR   UDC   681.325.65

GITIS, E. I., SHIMBIREV, P. N.

"Using Continuous Logic for Analog-Digital Conversion"

Taganrog, Region. nauchn.-tekhn. seminar po stat. analizu, mcdelir. i avto-
matiz. kontrolya ob"yektov s konstrukt. slozhn. strukturoy--sbornik (Regi-
onal Scientific and Technical Seminar on Statistical Analysis, Modeling and
Automated Monitoring of Objects With a Structurally Complex Design--collec-
tion of works), vyp. 6, 1972, pp 9-15 (from RZh-Avtomatika, Telemekhanika i
Vychislitel'naya Tekhnika, No 11, Nov 72, abstract No 11B303)

Translation: Support is presented for the feasibility of using continuous
logic to study analog-digital converters. The research makes use of the
general concept of analog-digital conversion in accordance with the gener-
alized method of scales. It is proved that continuous-logic functions can
be used to form the output code of the converter. Bibliography of seven
titles. L. P.

1/1

USSR   UDC 681.325.3

GITIS, E. I., and DAVARASHVILI, G. I.

"Multichannel Voltage-Code Converter"

USSR Author's Certificate No 275546, Filed 8/01/69, Published 13/10/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i
Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B491P)

Translation: A multichannel voltage-to-code converter was described in
Author's Certificate No 153399, containing a pulse counter, connected
through a switching circuit to a pulse generator, and individual comparison
circuits in each channel. However, this converter has comparatively long
conversion time in all channels, particularly when the range of voltages
converted is relatively large. Furthermore, in the usual converters for
any channel, regardless of the range of change of the input voltage, a
constant absolute conversion error is retained, which results in a variable
relative error for each channel. In order to eliminate these defects, a
device has been added to the converter circuit, providing for a variable
quantization step with respect to the level as a function of the input
voltage. 1 fig.
1/1

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Measuring, Testing, Calibrating

USSR   UDC 620.179.16

GITIS, M. B., DOBROMYSLOV, V. M., KOPANSKIY, A. G., and SAZHIN, V. V., All-Union Scientific Research Institute for the Development of Nondestructive Materials Quality Control Methods and Facilities

"Separate-Combined Finder for Ultrasonic Flaw Detector"

USSR Authors' Certificate No 363031, Cl. G 01n 29/04, filed 10 Mar 70, published 20 Dec 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1973, p 87)

Abstract: The device contains an emitting and a receiving transducer mounted on acoustic lines separated by an acoustic screen. The unique feature is that, to increase measurement accuracy, one of the transducers takes the form of a capacitor consisting of two metal plates separated by a dielectric layer and connected to the polarizing voltage. An illustration is given.

1/1

USSR

GITIS, M. B., KOPANSKIY, A. G., All-Union Scientific Research Institute on Development of Nondestructive Methods and Facilities for Quality Control of Materials, Kishinev

"Measuring the Coefficient of Absorption of Ultrasound in Solids at High Temperatures"

Abstract: The paper describes an installation and method for measuring the coefficient of absorption of ultrasound in small solid specimens at frequencies of 5-100 MHz in the temperature range of 20-2000°C. The measurement installation was made up of two acoustic lines fastened coaxially on a coordinate device. One line is stationary during measurement, and can be adjusted with respect to angle. The other acoustic line acts as a clamp for the specimen. The acoustic lines are made of fused quartz. The design and operation of the measurement apparatus is described in some detail. Measurements of ultrasonic absorption on fused quartz, nickel and silicon showed that the proposed method gives an error of only 0.2-0.3 dB/cm. The authors thank V. G. Mikhaylov for helpful comments and discussion of the results.

1/1

TITLE--SOUND ABSORPTION IN MOLTEN TIN AND THALLIUM -U-

AUTHOR-(03)-GITIS, M.B., MIKHAYLOV, I.G., NIYAZOV, S.

COUNTRY OF INFO--USSR

SOURCE--AKUST. ZH. 1970, 16(1), 141-2

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--LIQUID METAL, TIN, THALLIUM, X RAY ANALYSIS, SOLID STATE,
   SOUND ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1989   STEP NO--UR/0046/70/016/001/0141/0142

CIRC ACCESSION NO--AP0118948
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0118948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACOUSTIC PROPERTIES OF SN AND TL WERE STUDIED IN CONNECTION WITH THE DIVISION OF METALS INTO GROUPS. THE MOLTEN TL CAN BE CONSIDERED AS A "NORMAL" METAL; ITS SOUND VELOCITY DECREASES LINEARLY WITH THE TEMP. AND THE TEMP. DEPENDENCE OF ITS ABSORPTION COEFF. IS NEARLY THE SAME AS THAT OF THE MOLTEN PH. THE LIQUEFIED SN, ON THE OTHER HAND, CANNOT BE CONSIDERED AS A "NORMAL METAL"; THE COEFF. OF THE SOUND ABSORPTION INCREASES WITH THE TEMP. INCREASE, BUT THIS INCREASE BECOMES SLOWER AT GREATER THAN 550DEGREES. X RAY ANAL. ALSO SHOWS AN ABNORMAL BEHAVIOR: AT THE MELTING OF THE METAL A PHASE OF A GREATER D. IS FORMED AND SUBSISTS SIMULTANEOUSLY WITH THE LESS DENSE ONE, PROPER TO THE SOLID STATE. THIS ABNORMAL STRUCTURE DISAPPEARS PROGRESSIVELY WITH THE TEMP. INCREASE. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

TITLE—THERMAL DEGRADATION OF AROMATIC POLYAMIDES WITH HETERO GROUPS IN
   THE CHAINS -U-

AUTHOR-(05)-VELYAKOV, V.K., KOSOBUTSKAYA, A.A., SAVINOV, V.M., SOKOLOV,
   L.B., GITIS, S.S.

CCUNTRY OF INFO—USSR

SOURCE—VYSOKOMOL. SOEDIN., SER. A 1970, 12(3), 610-19

DATE PUBLISHED————70

SUBJECT AREAS—CHEMISTRY, MATERIALS

TOPIC TAGS—ThERMAL DEGRADATION, POLYAMIDE COMPOUND, POLYMER, ACTIVATION
   ENERGY

CCNTRCL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/1678   STEP NO—UR/0459/70/012/003/0610/0619

CIRC ACCESSION NO—AP0125299
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0125299
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DEGRADATION IN AIR OF
   AROMATIC POLYAMIDES WAS STUDIED.   THE AMTS. OF THE POLYMERS CONVERTED
   TO GASES IN 30 MIN AT THE DECOMPN. TEMPS., THE ACTIVATION ENERGIES OF
   THE DEGRADATION AT 410-20DEGREES AND 440-60DEGREES, THE TEMPS. AT WHICH
   20PERCENT OF THE GEL FRACTION REMAINS, AND THE TEMPS. AT WHICH THE
   VISCOSITY IS REDUCED TO 0.5 OF ITS ORIGINAL VALUE IN 30 MIN ARE GIVEN.
   HETERO GROUPS IN THE POLYMER MOLS. LOWER THE THERMAL OXIDATIVE
   RESISTANCE IN THE ORDER CH SUB2 LARGER THAN S LARGER THAN CO LARGER THAN
   O LARGER THAN SO SUB2 LARGER THAN OR EQUAL TO CF SUB2 CF SUB2.
   FACILITY: VLADIMIR. NAUCH.-ISSLED. INST. SIN. SMOL, VLADIMIR, USSR.

UNCLASSIFIED

USSR   UDC 547.63 + 547.562.4'562.1

GITIS, S. S., SEINA, Z. N., KAMINSKAYA, E. G., IVANOVA, V. M.,
BELOBRAGINA, V. V., SOSONKIN, I. M., and KAMINSKIY, A. YA.,
VNIPIM [All-Union Scientific Research and Planning Institute of
(unknown; possibly Monomers)], Tula, and CHIKURINA, L. V., VNIIV
[All-Union Scientific Research Institute of Synthetic Fibers]

"p,p'-Bis-(carboxyphenylsulfonyl)-diphenyl Oxide and Some of Its
Derivatives -- Monomers for the Production of Thermostable
Fibers"

Moscow, Khimicheskiye Volokna, No 1, 1971, pp 45-47

Abstract: The article suggests the synthesis of new monomers,
viz. derivatives of p,p'-bis-(carboxyphenylsulfonyl)-diphenyl
oxide, for the production of thermostable polymer materials. A
study of the first stage of the synthesis -- tosylation of di-
phenyl ether -- showed that the process yields two principal
products whose elementary composition corresponds to the general
formula $CH_3 - Ar - SO_2 - Ar - O - Ar - SO_2 - Ar - CH_3$, as well as a
third substance whose composition corresponds to the composition
1/2

USSR

GITIS, S. S., et al., Khimicheskiye Volokna, No 1, 1971, pp 45-47

of the monotosylation product $Ar-O-Ar-SO_2-Ar-CH_3$. The structure of the synthesized products was confirmed by IR and electron spectroscopy, as well as polarography. Fibers based on the resultant monomers are strong and elastic.

2/2

1/2   022   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--PHOTOMETRIC DETERMINATION OF THE TOTAL CONTENT OF TRI AND
TETRANITRODIPHENYL SULFONES IN 3,3 PRIME DINITRODIPHENYL SULFONE -U-
AUTHOR-(04)-KAMINSKIY, A.YA., BRONSHTEYN, E.A., GITIS, S.S., IVANOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 155-8 (RUSS)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOTOMETRIC ANALYSIS, BENZENE DERIVATIVE, AROMATIC NITRO
COMPOUND, SULFONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2144   STEP NO--UR/0032/70/036/002/0155/0158

CIRC ACCESSION NO--AP0125727
                          UNCLASSIFIED

CIRC ACCESSICN NO--AP0125727
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE TOTAL AMT. OF TRINITRODIPHENYL
SULFCNE (I) AND TETRANITRODIPHENYL SULFONE (II) IN 3,3 PRIME
DINITRODIPHENYL SULFCNE (III) CAN BE DETD. AFTER DISSOLVING A 0.01 G
SAMPLE IN 7 ML ME SUB2 CO AND ADDING 3 ML SOPERCENT AQ. NH SUB4 OH.   THE
ABSORBANCE CF THE CCLORED SOLN. (ABSORPTION MAX. 605 AND 520 NM FOR I
AND 520 AND 610 NM FOR II) WAS MEASURED 20-30 MIN AFTER ITS PREPN. IN 2
CM CUVETTES.   BY USING THE ABOVE METHOD IT WAS FOUND THAT III CONTAINS
0.3-0.4PERCENT OF THE TRI AND TETRANITRODIPHENYL SULFONES.
FACILITY: VES. NAUCH. ISSLED. PROEKT. INST. MONOMER., TULA, USSR.

1/2   012   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--INFLUENCE OF THE COMPOSITION OF A REACTION MIXTURE ON M,XYLENE
   OXIDATION -U-
AUTHOR-(05)-ALEKSANDROV, V.N., GOLUBEV, G.S., GITIS, S.S., ZABELINA, G.V.,
   SAVINOVA, V.V.
COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 341-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--XYLENE, OXIDATION, ORGANOCOBALT COMPOUND, CATALYST ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0892   STEP NO--UR/0064/70/046/005/0341/0343

CIRC ACCESSION NO--AP0137920
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0137920

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CO(OAC) SUB2 CATALYZED, BR
INITIATED OXIDN. OF M,ME SUB2 C SUB6 H SUB4 (I) AT A CONCN. OF 2
MOLES-L. IN HOAC SOLN. BY AIR ADMITTED AT 150DEGREES AND UNDER 20 ATM
PRESSURE WAS 0.2-0.5 ORDER IN BR, 1-2 ORDER IN CO, AND 1.7-0.4 ORDER IN
I. THE ORDER IN FELL AS I CONCN. ROSE FROM 0.5 TO 2 MOLES-L.   AT THE
OPTIMAL CO,BR RATIO (2:1 TO 1:1), M,(HO SUB2 C) SUB2 C SUB6 H SUB4 (II)
YIELDS WERE 86.9, 83.7, 71.2, 81.0, 79.0, 83.3, 85.8, AND 87.1PERCENT
WHEN THE INITIATORS WERE NH SUB4 BR, CHBR SUB3, C SUB2 H SUB2 BR SUB4,
P,(BRCH SUB2) SUB2 C SUB6 H SUB4, BR SUB2, HBRO SUB3, HBR, AND COBR
SUB2, RESP.   WHEN CO(OAC) SUB2 WAS REPLACED BY THE MN SALT, THE REACTION
RATE WAS REDUCED AND II YIELDS WERE 49.9PERCENT, BUT WHEN MIXTS. OF
THESE CATALYSTS WERE USED, REACTION RATES APPROACHED THOSE FOR CO(OAC)
SUB2 CATALYZED OXIDN. AND II YIELDS WERE 80.8-7.0PERCENT.

1/2   015   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--ALKYL ETHERS OF 3,5,DINITHROTHIENOL -U-

AUTHOR-(03)-GITIS, S.S., IVANOVA, V.M., NEMLEVA, S.A.

CCUNTRY CF INFO--USSR

SCURCE--USSR, 263,585
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METHYL ETHER, ORGANIC NITRO COMPOUND, TRIOPHENE, ALCOHOL,
  ORGANIC SYNTHESIS, CHEMICAL PATENT

CCNTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1333   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128740
                        UNCLASSIFIED

CIRC ACCESSICN NO--AA0128740
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE ETHERS, E. G. ME ETHER
  OF 3,5,DINITROTHIENOL, ARE PREPD. BY TREATING
  3,5,DINITRO,2,HALOTHIOPHENE WITH APPROPRIATE ALKALI METAL ALCOHOLATES IN
  DIOXANE, WITH SUBSEQUENT TREATMENT OF THE REACTION MASS WITH CO_2.
    FACILITY: ALL UNION SCIENTIFIC RESEARCH AND DESIGN INSTITUTE OF
  MONOMERS.

UNCLASSIFIED

1/2   017   UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--PREPARATION OF ACRYLIC ESTERS OF 2,4,DINITROPHENOL -U-

AUTHOR-(02)-GITIS, S.S., IVANOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 151,345
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(4)
DATE PUBLISHED--06JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACRYLATE, ORGANIC NITRO COMPOUND, PHENOL, CHEMICAL PATENT,
   AROMATIC ETHER, PHENYL ETHER, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0727   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0111920
                         UNCLASSIFIED

CIRC ACCESSION NO--AA0111920
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACRYLIC ESTERS OF
  2,4,DINITROPHENOL CONTG. REACTIVE GROUPS ON THE PHOH NUCLEUS WERE PREPD.
  BY TREATING 2,2 PRIME, 4,4 PRIME,TETRANITRODIPHENYL ETHER WITH THE
  CORRESPONDING K PHENOLATE IN THE COLD IN SOLNS. OF ORG. SOLVENTS.

UNCLASSIFIED

USSR

UDC: 8.74

TURBOVICH, I. T., GITIS, V. G., MASLOV, V. K.

"Pattern Recognition. A Deterministic-Statistical Approach"

Opoznaniye obrazov. Determinirovanno-statisticheskiy podkhod (cf. English above), Moscow, "Nauka", 1971, 248 pp, ill. 1 r. (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1071)

Translation: The authors consider theoretical aspects and algorithms for design of recognition automata, and also examples of solving practical problems based on the deterministic-statistical approach developed in this book.

1/1

USSR

LAZARENKO, B.P., GITLEVICH, A.Ye., TKACHENKO, V.N. and
FURSOV, S.P., Kishinev

"Effect of Electric Discharge Parameters and Discharge System Design
on Metal Powder Deposition Process"

Kishinev, Electronnaya Obrabotka Materialov, Applied Physics
Institute, Academy of Sciences, Moldavian SSR, No 6, 1972, pp 24-26

Abstract: Experiments were made with discharging metal powder out
of a 8 mm diameter barrel against a flat surface. The effectiveness
was defined as the ratio of powder deposited to the initial charge.
According to the graphs the effectiveness varied a lot with the electric
discharge energy and with the distance from the barrel outlet to the
flat surface, but depended little on the length of the barrel. However,
according to the photographs in the article the character of deposit
depends on the length of the barrel; with longer barrel the powder is
deposited in liquid phase, probably because of cooling in the barrel.
With shorter barrel the vapor phase appears. Photographs of plasma
jets leaving the barrel show shock waves.
1/1

Electricity & Magnetism

USSR

UDC 530.145

BAGROV, V. G., BOZRIKOV, P. V., GITMAN, D. M., LAVROV, M. M.

"Electron   in the Field of a Plane, Quantized, Monochromatic Electromagnetic Wave"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 8, 1973, pp 55-58

Abstract: The exact solution of the Dirac equation was obtained for an electron moving in a field of a quantized, monochromatic, plane electromagnetic wave of arbitrary polarization. The investigation of the arbitrary polarization of the wave leads to nontrivial physical consequences. The solution was found by the method of canonical transformation of the generation and destruction operators proposed by Bogolyubov and Tyablikov [ZhETF, No 19, 256, 1949]. In the special case of linear polarization the results obtained in this article are identical with the results of I. Berson [ZhETF, No 56, 1627, 1969], who demonstrated that the problem of movement of an electron in a quantized wave field can be solved exactly if it is restricted to the case of a monochromatic, linearly polarized wave. Volkov's solution [D. M. Volkov, Zs. Phys., Vol 94, 250, 1935] can be obtained from the indicated solution by determining the coherent state and subsequent transition to the limit as V → ∞ (V is the normalization volume).
1/1

Conferences

USSR

GITMAN, E. M.

"All-Union Symposium on the Protection of Metals from Corrosion-Mechanical Damage"

Moscow, Zashchita Metallov, Vol 7, No 3, 1971, p 365

Abstract: The symposium on corrosion and protection of metals was held from 22 to 24 December 1970. The symposium was organized by the Committee of VSNTO (All-Union Council of Scientific and Technical Societies). Approximately 200 specialists participated in the symposium. The following institutes were represented: Institute of Physical Chemistry of the USSR Academy of Sciences, VNIIKhIMMASh (All-Union Scientific Research and Experimental Institute of Chemical Machinery), and TsNIIChermet (Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin). Reports were given on the cracking of high-strength grades of steel, mechanico-chemical phenomena during corrosion under stress, corrosion-mechanical failure of farm machinery structures, the fight against corrosion cracking of chemical equipment and apparatus, and the struggle against alkaline brittleness of boiler steel. The symposium included three working sections: corrosion cracking of metals and alloys, intercrystalline corrosion of metals and alloys, and corrosion fatigue and
1/2

USSR

GITMAN, E. M., Zashchita Metallov, Vol 7, No 3, 1971, p 365

other types of corrosion-mechanical failure of metals and alloys. The sympo-
sium participatts recognized the necessity for establishing a single coordi-
nating plan on the subject "Protection of Metals from Corrosion-Mechanical
Damage", the establishment of GOST's for testing metals as to resistance to
corrosion cracking and corrosion fatigue, the re-examination of GOST 6032-58
used for testing intercrystalline corrosion, and the development of new
instruments and machines for testing the corrosion of metals under stress.

2/2

1/2   016
UNCLASSIFIED
PROCESSING DATE--30OCT70
TITLE--COMPOSITION OF A NORMAL DISTRIBUTION AND THE DISTRIBUTION OF THE
   VALUES OF A SINUSOID WITH A RANDOM PHASE -U-
AUTHOR--GITNIK, A.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA, NO 2, 1970, 00 97-99

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--NORMAL DISTRIBUTION, INTEGRAL FUNCTION, WAVE FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1292
                                STEP NO--UR/0108/70/000/002/0097/0099
CIRC ACCESSION NO--AP0123251
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0123251
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES EXPANSION IS OBTAINED FOR
  AN INTEGRAL FUNCTION OF NORMAL DISTRIBUTION COMPOSITION AND FOR THE
  DISTRIBUTION OF THE VALUES OF A SINUSOID WITH A RANDOM PHASE. ORIGINAL
  ARTICLE: THREE BIBLIOGRAPHIC ENTRIES.

UNCLASSIFIED

USSR   UDC 621.316.722.1(088.8)

MARAKHOVSKIY, V.B., GITOVICH, A.A., KANEVSKIY, YE.A. [Leningr. otd. Tsentr. ekonomiko-matematich. in-ta AN SSSR--Leningrad Branch Of The Central Economic-Mathematic Institute, AS, USSR]

"Stabilizing Rectifier Based On Silicon Control Diodes"

Translation: A thyristorized d-c voltage regulator is patented which is made in the form of a bridge rectifier, two sections of which are formed with uncontrolled semi-conductor diodes, and the other sections with thyristors. Commutation of the thy-ristors is performed by a frequency network with the aid of a feedback circuit which simultaneously fulfills the role of a duration modulator. To accomplish this a circuit based on three transistors with a time-assigning [vremyazadayushchiy] capacitor is used. 1 ill. S.D.

1/1

1/2   014   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--CALCULATION OF FATIGUE LIFE FOR RANDOM LOADS -U-

AUTHOR--GITS, I.D.   G

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MEKHANIAK, VOL 6, FEB. 1970, P 110-117

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--FATIGUE LIFE, MECHANICAL PROPERTY, STRAIN, RESIDUAL STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1329   STEP NO--UR/0198/70/006/000/0110/0117

CIRC ACCESSION NO--AP0106106
                         UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0106106
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   DERIVATION OF AN ENERGY BALANCE
  EQUATION WHOSE SOLUTION YIELDS THE MEAN FATIGUE LIFE OF A SAMPLE.   THIS
  RESULT PROVIDES A PHENOMENOLOGICAL DESCRIPTION OF THE FATIGUE PROCESS,
  WHICH MAKES IT POSSIBLE TO OBTAIN AN ANALYTICAL RELATION BETWEEN THE
  LIFE TIME OF MATERIALS AND THE STATISTICAL CHARACTERISTICS OF RANDOM
  LOADS.   THE COEFFICIENTS OF THE EQUATION ARE DETERMINED WITH THE AID OF
  EXPERIMENTAL FATIGUE CURVES AND RESIDUAL STRAIN CURVES.   THE DEPENDENCE
  OF THE FATIGUE LIFE OF A SAMPLE OF THE STATISTICAL CHARACTERISTICS OF A
  STATIONARY RANDOM LOAD ARE CALCULATED AS AN EXAMPLE.

UNCLASSIFIED

1/2   027   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--CCMMUTATION EFFECT IN BISMUTH TYPE SEMIMETALS -U-

AUTHOR-(04)-BIVOL, V.G., BODIUL, P.P., FEDORKO, A.S., GITSU, D.V.

CCUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 2, PP 545-550

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--BISMUTH, BISMUTH ALLOY, ELECTROMOTIVE FORCE, MAGNETIC FIELD
EFFECT, ANISOTROPY, HIGH TEMPERATURE EFFECT, ENERGY BAND STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0628   STEP NO--GE/0030/70/037/002/0545/0550

CIRC ACCESSION NU--AP0107225
                    UNCLASSIFIED